DOCUMENT RESUME

ED 313 027 IR 014 081

TITLE	A Legal Guide for the Software Developer.
INSTITUTION	Minnesota Small Business Assistance Office, St. Paul.
SPONS AGENCY	North Carolina Univ., Chapel Hill. Commission on Higher Education Facilities.
PUB DATE	Sep 88
NOTE	57p.; A collaborative effort of the Minnesota Small Business Assistance Office and Merchant, Gould, Smith, Edell, Welter & Schmidt, P.A.
AVAILABLE FROM	Minnesota Small Business Assistance Office, 900 American Center Building, 150 East Kellogg Blvd., St. Paul, MN 55101 (free while supply lasts).
PUB TYPE	Guides - Non-Classroom Use (055)
EDRS PRICE	MF01/PC03 Plus Postage.
DESCRIPTORS	*Computer Software; *Copyrights; *Intellectual Property; *Legal Responsibility; *Patents
IDENTIFIERS	*Software Development

ABSTRACT

This booklet has been prepared to familiarize the inventor, creator, or developer of a new computer software product or software invention with the basic legal issues involved in developing, protecting, and distributing the software in the United States. Basic types of software protection and related legal matters are discussed in detail, including patent protection, copyright protection, trade secret protection, protective legends, trademark protection, acquisition of rights in software, and distribution of software. An example is provided to illustrate the application of these basic types of protection and related legal matters to the development of a hypothetical spreadsheet software product. (GL)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

IR

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

This document has been reproduced as received from the person or organization originating it.

Minor changes have been made to improve reproduction quality.

Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

ED313027

A LEGAL GUIDE FOR THE SOFTWARE DEVELOPER

A Collaborative Effort
Minnesota Small Business Assistance Office
Merchant, Gould, Smith, Edell, Welter & Schmidt, P.A.

IR014081

BEST COPY AVAILABLE

A Legal Guide for the Software Developer is available without charge from either the Minnesota Small Business Assistance Office, 900 American Center Building, 150 East Kellogg Boulevard, St. Paul, MN 55101, telephone (612) 296-3871; or from Merchant, Gould, Smith, Edell, Welter & Schmidt, P.A., 3100 Norwest Center, 90 South Seventh Street, Minneapolis, MN 55402, telephone (612) 332-5300; or Merchant and Gould, Wells Fargo Center, Suite 1650, 333 South Grand Avenue, Los Angeles, CA 90071, telephone (213) 485-0100.

A LEGAL GUIDE FOR THE SOFTWARE DEVELOPER

September 1988

A Collaborative Effort
Minnesota Small Business Assistance Office
Merchant, Gould, Smith, Edell, Welter & Schmidt, P.A.

© Copyright 1988, Minnesota Department of Trade and Economic Development

TABLE OF CONTENTS

INTRODUCTION 1

OVERVIEW - THE SHORT COURSE 2

- Basic Intellectual Property Rights: Patents, Copyrights, Trade Secrets and Trademarks 2
- Patent Protection 2
- Copyright Protection 3
- Trade Secret Protection 3
- Protective Legends 5
- Trademarks 5
- Acquisition of Rights in Software from Another Person or Company 5
- Distribution 6
- Overview Summary 7

PATENT PROTECTION 8

- The Power of Patent Protection 8
- Unfounded Criticism 9
- Types of Patentable Software Inventions 9
- Novelty and Nonobviousness Requirements 10
- Source or Object Code Need Not Be Disclosed 10
- Trade Secret Status of a Patent Application 11
- Important Deadlines 11
- Design Patents 12
- Summary 13

COPYRIGHT PROTECTION 14

- Basic Features and Limitation of Copyright Protection 14
- Obtaining Copyright Protection 16
- Publication 16
- Copyright Notice 17
- Maintaining Archives 17

Copyright Registration 18
Enforcement 18
Summary 19

TRADE SECRET PROTECTION 20

Reasonable Efforts to Maintain Secrecy 20
Internal Procedures to Maintain Secrecy 20
External Procedures to Maintain Secrecy 22
Legal Duties Providing Foundation for Scope of Protection 22
Major Advantages and Disadvantages to Trade Secret Protection 23
Enforcement 24
Summary 24

PROTECTIVE LEGENDS 25

COMBINING PATENT, COPYRIGHT, AND TRADE SECRET PROTECTION 32

TRADEMARK PROTECTION 33

Federal Trademark Registration 35
Trademark Infringement 35
Trademark Clearance Searches 36
Summary 38

ACQUISITION 39

Obtaining Rights in Copyrights 39
Obtaining Rights in Inventions and Ideas 40
Protecting Licensing Rights 41
Summary 41

DISTRIBUTION OF SOFTWARE 43

A HYPOTHETICAL CASE 46

CONCLUSION 49

PREFACE

This booklet is the second in a series of planned collaborative efforts by the Minnesota Small Business Assistance Office and Merchant, Gould, Smith, Edell, Welter and Schmidt, P.A. It follows on the success of *A Guide to Intellectual Property Protection* which is now in its third edition. Like that guide, this booklet seeks to be a primer for the inventor or a developer of a new product. It recognizes that in the case of software, the complexities of basic questions about intellectual property protection are often compounded. The availability and limits of intellectual property protection are of special importance for software products which may be used by a large number of users possessed of the equipment and expertise to copy or appropriate the software's main elements.

Like all publications of this kind, this guide is not intended as a substitute for the advice of an attorney on the complexities of intellectual property law. Hopefully it will help frame issues and concerns for discussion with private legal counsel as well as with investors, bankers, potential developers, and customers.

Preparation of this work has been a collaborative effort between the Minnesota Small Business Assistance Office and the law firm of Merchant, Gould, Smith, Edell, Welter and Schmidt, P.A. A particular note of thanks must go to: Steven W. Lundberg, John P. Sumner and D. Randall Boyer at Merchant, Gould, Smith, Edell, Welter and Schmidt, P.A.; and Madeline Harris at the Minnesota Small Business Assistance Office.

Charles A. Schaffer
Minnesota Small Business Assistance Office

INTRODUCTION

This booklet has been prepared to familiarize the inventor, creator, or developer of a new computer software product or software invention with the basic legal issues involved in developing, protecting and distributing that product or invention in the United States. To make this booklet short and direct enough to be of value to the developer, almost all of the issues and matters discussed are greatly simplified. Some less frequently encountered legal issues are discussed only in passing or not at all. This simplification renders much of the legal information in this booklet inappropriate to rely on as legal advice. A decision concerning how to protect and market your software product or invention should be made only after consulting a qualified intellectual property attorney. However, this booklet will introduce you to many of the basic legal concepts of the area and will identify potential problem areas. And, you will be able to better select and communicate with an attorney if you already have some knowledge of the basic legal concepts, potential problem areas, and opportunities for maintaining the proprietary nature of your software product or invention.

This booklet will first briefly outline basic types of software protection and related legal matters including patent protection, copyright protection, trade secret protection, protective legends, trademark protection, acquisition of rights in software and distribution of software. It will then discuss these matters in some detail. Finally, it will give an example of how many of these basic types of protection and related legal matters apply to a hypothetical spreadsheet software product.

AN OVERVIEW — THE SHORT COURSE

The Basic Intellectual Property Rights in Software: Patents, Copyrights, Trade Secrets and Trademarks

There are three types of intellectual property protection available to protect the technology in software products and inventions. These are patent protection, copyright protection and trade secret protection. Normally, at least two types of protection can be used to protect any given product. In many cases all three types of protection can be used. Trademark protection is considered another type of intellectual property protection. However, a trademark does not protect the technology in a product. Rather, it protects the name of the product and goodwill developed from sales of the product. An additional type of intellectual property protection relates to mask work rights, which can be obtained for semiconductor chip product layout. However, since mask work rights have little to do with protecting software, they will not be discussed in this booklet.

Patent Protection

A utility patent can protect inventive functions, methods, systems or algorithms, including applied mathematical formulas, which are used or embodied in your software product. A patent protects the basic technology of your product or invention, not merely the expression of particular code. Thus, a patent can protect inventive software features without regard to the particular code used to implement them. It is also the only form of protection which provides "exclusivity" in the marketplace for an invention, effectively prohibiting independent development of a similar product. For these reasons it normally provides a much broader and more powerful form of protection than copyright or trade secret protection does.

The patent law requires that the patented feature be nonobvious. A patent is thus only available to protect nonobvious software inventions. However, the test for nonobviousness is much less exacting than commonly believed. Over 10,000 U.S. patents have already been granted on software inventions, and the number of software patent applications filed in the U.S. Patent and Trademark Office has risen dramatically in recent years.

A design patent can be obtained to protect the graphical or ornamental aspects of a screen display. Unlike utility patents, design patents do not protect functional aspects of a screen display.

Copyright Protection

Virtually all computer software products may be protected by copyright. In essence, copyright law protects against duplication or close imitation of the source or object code of the software product. In addition, copyright law may protect against the copying of a program's structure, sequence and organization and certain elements of a product's user-interface, or its "look and feel." Copyright law also grants the copyright holder the right to prevent others from modifying or adapting a software product without authorization.

Copyright protection is very easily obtained, is inexpensive and is relatively easy to enforce. Copyright protection, however, does not protect certain important aspects of a software product. It cannot protect the underlying functions, methods, ideas, systems or algorithms used in your software product or invention. Patent and trade secret protection can be used to protect these.

Trade Secret Protection

Trade secret protection can also be used to protect software products. To qualify as a trade secret, the software product or feature sought to be protected must be of value, not readily known or ascertainable to others, provide the owner with a

demonstratable competitive advantage and be subject to reasonable efforts to maintain its secrecy. Implementing internal and external safeguards to maintain the secrecy of trade secrets is of critical importance. Instituting a comprehensive employee program, placing special protective notices and legends on materials which indicate that such materials contain trade secrets or other confidential and proprietary information, maintaining physical security measures, and placing appropriate nondisclosure provisions in agreements with third parties are some of these internal and external safeguards.

There are advantages and disadvantages to trade secret protection. Some of the advantages include:

- Maintaining trade secret protection protects **ideas** and not merely the **expression** of such ideas;
- It protects special features not readily ascertainable by others; and
- It can last as long as the owner maintains its status as a trade secret, which could be forever.

Some of the disadvantages include:

- Trade secret protection only protects trade secrets against disclosure by parties who have a legal duty not to disclose;
- It cannot protect special features of marketed software products that are readily ascertainable;
- It cannot protect against independent development like patent protection can; and
- If an idea is maintained as a trade secret by an individual or company, another individual or company may also invent **and patent** the same idea, thus precluding the party using trade secret protection from practicing the invention.

While trade secret protection is an excellent protection scheme for software products under some circumstances, it is best used in combination with patent and copyright protection.

Protective Legends

Any software product, whether published or not, should bear an appropriate protective legend. Software that is distributed to the public without a signed license agreement is normally considered "published." On the other hand, software containing trade secrets that is under development or that is licensed to a limited number of end users under a trade secret license is usually considered "unpublished." In the case of published software, the legend should include a copyright notice. In the case of unpublished software, the legend should include language indicating the trade secret nature of the software and a copyright notice which is consistent with the unpublished nature of the software.

Trademarks

Trademark protection is a fourth type of intellectual property protection, but it does not protect the technology embodied in your software product as patent, copyright and trade secret protection do. Rather, trademark protection protects the name of your software product and protects the consumer goodwill developed in that name.

Acquisition of Rights in Software from Another Person or Company

Generally, when one acquires rights in a software product from another person or company, there are two types of rights that can be obtained. First, there is normally a right to possess and use a copy of the software product. Second, if specifically acquired by written agreement, there may be acquisition of intellectual property rights, including the right to copy, modify and distribute the product. The right to possess and use the software product can be considered the minimum right normally acquired. Such rights are usually acquired from the developer of the software. It is important to realize that, when you have obtained or have been supplied with a copy of a software product, you do not automatically acquire intellectual property rights in the product

such as the right to copy, modify and distribute the product. For example, an outside consultant may develop software for your company. Your company may not own the right to copy, modify and distribute such software in the absence of a written agreement providing these rights because intellectual property rights in software are usually owned by the developer in the absence of an agreement to assign.

In addition, because employees who participate in the development software for your company may own rights to the software in the absence of a written agreement, all employees of your company should be required to sign an employment agreement assigning all inventions and other intellectual property rights to the company and requiring the employee to maintain the trade secrets and other confidential and proprietary information owned by the company or acquired from others. Further, if you are acquiring software from an outside individual or company for use in a product to be distributed by you or your company, obtaining a written agreement properly defining rights in inventions and other intellectual property rights is crucial. It is also important to protect your acquired rights against premature termination. For example, it is possible that you could lose your rights to use a software product if the company that granted you a license to use the product goes bankrupt or if the license agreement defining your rights permits arbitrary, premature termination rights.

Distribution

Software products are distributed either directly or indirectly to users through a chain of distribution ending with a distributor or value-added remarketer or, in the case of mass-marketed microcomputer software, usually through a mail order house or retailer. A copy of the software product is typically not sold to the end user but is normally licensed to the user for use. The distinction between a "sale" and a "license" is that a "sale" transfers complete ownership of the copy of the product to the user, who is free to do practically anything it wants with the product as long as copyright and patent rights are not violated, while a "license" does not transfer ownership of the copy of the

product but merely grants the user the right to use the software with certain restrictions. For example, a license may restrict the user to use the licensed copy on one particular computer at a particular site with network use expressly prohibited. Because of the additional control licensing can provide, it has become the favored method of distributing most software products. However, there are situations in which the administrative burden or the difficulty of obtaining signed license agreements outweigh the benefits conferred.

Overview Summary

We have briefly outlined above the basic patent, copyright, trade secret, protective legend, trademark, acquisition and marketing concepts applicable to developing, protecting and distributing software products. With this overview in mind, we will now take a closer look at each of these areas.

PATENT PROTECTION

Many people in the software industry do not understand how to patent software, or why it should be patented (or even that it can be patented). However, as far as patents are concerned, software can be considered much the same as other technologies. For instance, a word processing program can be considered an electric typewriter of sorts, while a drawing or graphics program can be considered an electronic equivalent of a mechanical drafting tool or system. Data base management programs can be considered in many respects akin to mechanical devices for organizing paper records and files such as the devices sold under the Rolodex brand name. All such products, whether hardware or software, clearly qualify to be protected under the patent system. Thus, thinking of software products as electronic machines or tools may help one to understand why they should be patentable.

The Power of Patent Protection

A patent can provide protection for product features which cannot be protected under either copyright or trade secret law. For instance, a patent can protect ideas, systems, methods, algorithms, functions and other aspects of software products that cannot be protected by copyright under any circumstance and which in many cases cannot be protected as trade secrets.

Patents also have a broad reach. A U.S. patent gives the owner the right to prevent others from making, using, or selling the invention throughout the United States for a term of up to 17 years. Patents are enforceable against an infringing software product regardless of the manner in which the product is developed. Independent development is not a defense to patent infringement as it is in the case of actions for copyright infringement and trade secret misappropriation. In other words, patents are exclusive; only one person or entity can receive a patent for a particular invention. Patents obtained in countries outside the United States provide similar rights.

Patents also provide powerful relief from infringement in the form of injunctions and monetary damages. Triple damages and attorneys fees are available in appropriate cases of willful infringement, which can be established by showing that the defendant had knowledge of the patent and did not act reasonably in deciding to infringe. Because of these remedies, the majority of competitors will not willfully infringe even a marginal patent to avoid the risk of a very costly outcome.

Unfounded Criticism

Patent protection is sometimes criticized for being too expensive to acquire, taking too long to obtain, costing too much to enforce, and being too unreliable. Further, it is sometimes stated that obtaining a patent requires total forfeiture of all trade secret rights in a program. All of these criticisms are greatly overstated and substantially unfounded.

A patent is a much more reliable form of protection than is commonly believed. Witness the very powerful example of Polaroid's patent infringement suit against Kodak. The suit has forced Kodak to leave the "instant photography" business. Patent protection is actually inexpensive in view of its potential power. It can usually be obtained before it is needed. Patents are self-enforcing to a significant extent and in any event are not any less reliable or substantially more expensive to enforce than a trade secret claim, or even a copyright claim, in a complex software infringement lawsuit. Finally, the patent system has been substantially strengthened in recent years, making patents more valuable than ever.

Types of Patentable Software Inventions

Patent protection may be used to protect virtually any aspect of software. It is the best and usually the only effective protection against product imitation and "cloning." Examples of software features that can be protected include the following:

- Program algorithms;

- Display presentations or arrangements;
- Menu arrangements;
- Editing functions;
- Control functions;
- User-interface features;
- "Add-ins;"
- Utilities;
- Mathematical formulas used in a program to process data or control program execution;
- Spell-checking routines;
- Compiling techniques;
- Program language translation methods; and
- Operating system techniques.

Novelty and Nonobviousness Requirements

A software invention must be novel and nonobvious to qualify for protection. The novelty requirement means that, in order to be patentable, an invention must be new as compared to prior technology. The requirement of nonobviousness means that the differences between the invention and the prior technology are more than "obvious" trivial variations. Unfortunately, it is not possible to give a precise definition as to what is or is not obvious, because it is to a large extent a subjective judgment. However, if the invention provides significant new capabilities not found in prior technology, there is usually a good chance that patent protection can be obtained.

Source or Object Code Need Not Be Disclosed

Where detailed illustration is not essential for a proper understanding of an inventive software feature, the U.S. Patent

and Trademark Office (as well as the patent offices of other countries) encourages disclosure of the invention in the application in the form of pseudo code, block diagrams, and/or flow charts. Although one may include source code as part of this disclosure, it is not required. The applicant can usually meet the duty of disclosure with relatively high-level flow charts and diagrams. Pseudo code and data or object structure diagrams can also be used and are particularly helpful in object oriented systems where a well defined process does not occur. If the code is disclosed in an application, it can be protected under copyright law. Likewise, the expression of high-level flow charts, data structure diagrams, and pseudo code can also be protected under copyright law by including a copyright notice with each of these disclosures. In any event, usually only a small part of the total technology embodied in a software product need be disclosed to obtain a patent on an individual feature or function.

Trade Secret Status of a Patent Application

During processing, a patent application is held in secret by the U.S. Patent and Trademark Office. An application will not be published (i.e., distributed to the public) by the U.S. Patent and Trademark Office unless specifically authorized by the applicant. The applicant thus maintains control over the secrecy of the disclosed material, and the exact nature of the invention, until the patent is issued. While awaiting issuance, the inventor may use the words "patent pending" to notify others that patent protection is being sought. The uncertainty of a competitor about the coverage of the patent when it issues may discourage it from copying the protected product at least until after the patent issues. Also, the prospect of an infringement suit can hamper a competitor's ability to raise capital to develop a competing product.

Important Deadlines

There are important deadlines in seeking patent protection. As a general rule, for protection in the United States, a patent application must be on file in the U.S. Patent and Trademark Office within one year of the date on which the invention is first sold,

offered for sale, used publicly, or disclosed in a printed publication. If an application is not on file within the prescribed period, the inventor's rights to a patent for the invention are forfeited forever. To obtain patent protection in most foreign countries, a patent application should normally be filed before any public disclosure or public use anywhere.

The deadline rules stated above are greatly simplified and are intended only to give you a sense of the deadline requirements of obtaining patent protection. These rules are not legally precise and are not legal advice. They should not be relied on to determine your right to file or when to file. There are many subtleties and nuances to the deadlines within patent law which must be appreciated before a sound legal conclusion can be reached regarding any particular situation. For instance, under certain circumstances, a public use could be found where the invention is practiced secretly in a company's proprietary computer operation.

Design Patents

In addition to utility patents, there are also "design" patents. In contrast to a utility patent which protects the functional aspects of technology, a design patent protects "ornamental" designs, wherein the invention lies in aesthetic appearance. Design patents are available to protect the graphical aspects of computer screen displays. Other software-related designs which can be protected by design patent include icons, softkey menu displays, type fonts, and ornamental border designs.

Much of what can be covered by a design patent can also be protected under copyright law. There are, however, differences in the legal basis for both of these rights which can give design patents advantages over copyright protection. Although there is some legal uncertainty in the area, it does appear that both copyright and design patent protection can be obtained for the same screen display. Accordingly, it is presently considered advisable to obtain both forms of protection where possible.

Design patents are considerably simpler in make-up to utility patents and thus are considerably less expensive to obtain. In general, a design patent for a screen display costs approximately $1,000 to obtain.

Summary

Patent protection is a powerful form of software protection which can and should be used aggressively. It can be creatively applied to protect many features of an invention which cannot be protected by copyright or trade secret protection. In most cases, the only disadvantage to obtaining patent protection is the cost. The cost, however, is minimal compared to typical software development expenditures and the value of achieving the exclusive right to market the technology being protected by the patent.

COPYRIGHT PROTECTION

The Basic Features and Limitations of Copyright Protection

Copyright protection is another powerful form of protection for a software product. The owner of copyrighted software has the exclusive right to control:

- Duplication of the software;
- Preparation of derivative versions of the software; and
- Distribution of copies of the software to the public, by sale, rental or otherwise.

The United States Copyright Act strictly prohibits anyone from attempting to perform the above exclusive rights without permission from the copyright owner.

The exclusive right to control duplication protects the owner of a software product against unauthorized copying, such as where the source or object code of the product is copied verbatim. It can also protect against certain indirect forms of unauthorized copying such as unauthorized translation of a product's code to a different programming language, and it may even protect against use of the code's structure, sequence and organization as a detailed outline to prepare a substantially similar program.

The right to control the preparation of derivative versions of a software product is an important and valuable aspect of copyright protection. This right makes it unlawful for someone developing a competing product to modify, adapt or change a software product without authorization from the copyright owner. This right can be effectively used to monitor closely the development or adaption of a product by third party developers. There is an important exception to this right. Users of the software product who own a copy of the software may make or authorize the making of an adaptation of that software product, provided that the adaptation

is created as an essential step in the utilization of the software product in conjunction with a machine and that it is used in no other manner. This right of an owner of a computer program does not necessarily apply to a licensee of a computer program copy, since a license agreement could provide restrictions against preparation of derivative works, and unauthorized use of the software product on more than one computer.

The right to control distribution is another independent right granted to the copyright owner by copyright law. This right can be transferred by the owner to a distributor while the right to reproduce copies for distribution by the distributor remains with the owner.

Generally, copyright protection is effective for the life of the author plus 50 years or 75 years if the work was developed as a "work made for hire" (i.e., developed by an employee within his or her scope of employment). Thus, a copyright lasts considerably longer than a patent (up to a 17-year term for a U.S. utility patent) but not as long as a trade secret, which can theoretically last forever.

It is important to understand that copyright law cannot protect the ideas embodied in a software product, just as a copyright cannot protect the ideas communicated by a story in a book. The ideas embodied in a software product include any methods, systems, algorithms, and applied mathematical formulas used or implemented by the product. Copyright law cannot protect a product from being imitated or cloned so long as only unprotected ideas are imitated or copied. Thus, copyright has a broad reach in the sense that it is available to protect virtually any software product, but the protection afforded is very limited in scope in comparison to patent and trade secret protection.

Copyright protection is available to protect any type of code, including source code, object code, machine code, all programming languages (such as high level languages or fourth generation languages) and on any medium (such as magnetic disk, ROM or in print form). Moreover, it does not matter whether the software is an application program or an operating system.

Copyright protection also appears to be available to protect certain aspects of a software product's user-interface, or what has come to be known as its "look and feel." Although some courts have found to the contrary, the protection available to user-interface features through copyright law is likely limited to any artistic expression which can exist independently of the screen-display utilitarian features.

Obtaining Copyright Protection

A copyright is automatically obtained when software is created. If the software is published, an appropriate copyright notice must be properly placed on all published copies. If the notice is not properly placed, the copyright in the software may become part of the public domain. Formal copyright registration with the U.S. Copyright Office is not necessary to obtain or maintain copyright protection. However, a registration must be obtained before the copyright can be enforced. If software is registered with the U.S. Copyright Office **before** it becomes necessary to enforce it in a lawsuit, the copyright owner is entitled to two substantial benefits not otherwise available in enforcing its copyright. The first benefit is the ability to force the infringing party to pay the copyright owner's attorneys' fees for enforcing the copyright. The second benefit is the ability to receive statutory damages from the infringer. Receiving "statutory damages" means that the judge or jury can make the infringer pay substantial damages without the requirement of proving actual damages, which is often the only way to obtain meaningful monetary damages. These two advantages are so valuable that a copyright registration should be acquired promptly as a matter of course on each released version of a software product. The registration process itself is discussed further below.

Publication

As is further discussed below, whether a software product is published or not may have a significant bearing with respect to the copyright in your software product and the form of the copyright notice used with your product. Software that is distributed to the

public without a signed license agreement is normally considered "published." However, software containing trade secrets that is under development or is licensed to a limited number of users under a trade secret license is usually considered "unpublished."

Copyright Notice

Any software product, whether published or not, should bear an appropriate protective legend. In the case of published software, this legend should include a copyright notice. In the case of unpublished software, a copyright notice can be included, but it should be included in a manner which ensures maintaining the unpublished nature of the software.

Generally, published software products will lose their ability to be protected under copyright law if appropriate copyright notices do not appear in proper locations on the media containing the software product and embedded in the code of the product. However, there is some flexibility in the law on copyright notices, and under some circumstances deficient or missing notices on published software products can be corrected retroactively without losing their ability to protect. This is discussed further in the "Protective Legends" section, which also addresses the proper form and placement of protective legends for published and unpublished software products.

Maintaining Archives

It is important to maintain two copies (one copy if a second copy can be easily reproduced from one copy) of each version of a software product and related software documentation. The copies should be kept in archives so that they can be later used to aid an infringement investigation and/or to obtain registrations, if necessary. The original and each released version should be retained in these archives as long as any version of the software is supported (e.g., marketed software) or used (e.g., internally used software).

Copyright Registration

Generally speaking, as long as a software product has not entered the public domain because of a deficient or missing copyright notice, the copyright in the product can be registered in the United States at any point during the life of the copyright. However, to qualify for the benefits of attorneys' fees and "statutory damages" as discussed earlier, registration must occur prior to enforcing the copyright. For a United States registration, a "deposit" consisting of the first and last twenty-five pages of the source code of the product, a properly completed U.S. Copyright Office registration form (Form TX) and a $10.00 fee are submitted to the Copyright Office. If the software contains trade secrets, the Copyright Office has "special relief" provisions which allow the registrant to meet the deposit requirement by supplying only a very limited amount of the source code and/or object code with up to fifty percent of the trade secret portions blocked out. To have the best evidence for use in a potential infringement suit, it may be wise to deposit virtually all pages of the source listing (with trade secret portions blocked out). In any event, the trade secret status of the software can be maintained in registered software. Typically, the Copyright Office will process a normal software registration within two to three months after receiving the application (three to four months for "special relief" registrations). The Copyright Office will expedite the handling of a copyright registration if the copyright is the subject of a lawsuit. A special request to expedite the handling of the registration must be made with an additional fee of $200.00 in addition to the $10.00 filing fee.

Since using the wrong dates or mischaracterizing the software or its status on the application can render a copyright registration ineffective, it is strongly suggested that an attorney be consulted to review both the copyright application and the deposit before it is submitted to the Copyright Office.

Enforcement

Remedies for infringement of the exclusive rights of a copyright owner include injunctions, impounding and disposing of

infringing articles, and damages and profits of the infringer. Statutory damages, costs and attorneys' fees are available if, **and only if,** a registration is obtained before it is necessary to sue. Importation of infringing copies can also be prevented under laws pertaining to United States Customs.

Summary

Copyright protection is available to and should be used to protect virtually all software products. While it is excellent protection against unauthorized duplication, it cannot protect many important features of a software product. It is best used in combination with patent and/or trade secret protection, which can often protect the other important features.

TRADE SECRET PROTECTION

Many software products can be protected as a trade secret. To qualify as a trade secret, the software product or software feature sought to be protected must be of value and not readily known or ascertainable to others. A trade secret must also provide a demonstrable competitive advantage and be subject to reasonable efforts to protect and maintain it.

Reasonable Efforts to Maintain Secrecy

Your software company should undertake certain internal and external procedures to enhance your company's claim that its trade secrets are subject to reasonable efforts under the circumstances to maintain their secrecy.

Internal Procedures to Maintain Secrecy

There are a multitude of internal procedures that your company can adopt to enhance its claim that it is reasonably protecting its trade secrets and to demonstrate its intention to keep its trade secrets and other confidential and proprietary information confidential. Establishing an employee program to protect trade secrets is the most important internal procedure. Such a program includes requiring:

- All salaried employees to sign written nondisclosure agreements as a condition of their hiring, and
- Similarly requiring all hourly employees to sign statements reciting the company's policies with respect to its trade secrets and other confidential and proprietary information.

The employee program should also include placing notices of your company's policies with respect to its trade secret and other confidential and proprietary information prominently on bulletin boards and other areas in which employees would be likely to see

them (e.g., your company lunchroom), and the dissemination of memoranda to your employees on an annual basis to remind them of your company's policies. Finally, your company's employee program should include the performance of exit interviews when employees leave your company's employment. During these exit interviews, the employee should be reminded of your company's policies with regard to its trade secrets and other confidential and proprietary information. In addition, the employee should be reminded in the interview (and in a follow-up letter to the employee and to the employee's new employer) of the areas of expertise and information developed by or disclosed to the employee during employment, reminding him or her that these areas of expertise and information cannot be disclosed to others, including the new employer.

In addition to the employee program, your company should maintain a reasonable level of physical security at its offices to physically safeguard its trade secrets and other confidential and proprietary information. Some common physical security measures that your company should seriously consider adopting include:

- Keeping all trade secret and other confidential and proprietary information under lock and key (or, if "on-line," subject to computer security measures to prevent unauthorized access) and restricting access to such information to only those employees who need access to perform their respective jobs;
- Restricting access to certain parts of your offices to authorized personnel only;
- Keeping all important doors locked;
- Maintaining a register to be signed by all visitors;
- Requiring that visitors be escorted;
- Requiring approval of a corporate officer for any office tours and restricting the scope of such tours; and
- Requiring all employees and visitors to wear distinguishing badges, especially to gain access to restricted areas.

External Procedures to Maintain Secrecy

In addition to internal procedures to maintain the secrecy of all trade secret and other confidential and proprietary information, your company should engage in certain external procedures which will reasonably protect information outside your company. The single most important external procedure which must be adopted by your company is the insertion of nondisclosure provisions in all agreements under which trade secret or other confidential and proprietary information may be disclosed. Without nondisclosure provisions in all agreements with "outsiders" (any nonemployees), any information that is disclosed to outsiders could become public domain information free from any trade secret obligation, and your company could completely lose its trade secret protection with regard to such information. Also, any trade secret or other confidential and proprietary information disclosed to an outsider should contain a protective legend (see "Protective Legends" section).

Legal Duties Providing Foundation for Scope of Protection

Trade secret law prevents those who are under a legal duty from disclosing trade secret and other confidential and proprietary information to any third party who does not have a right to know the information. Therefore, trade secret protection hinges upon your company's establishing a legal duty under which your trade secrets will be protected.

Typically, there are two foundations for establishing this legal duty. First, there is an implied duty at law (arising without any agreement) for employees not to disclose trade secret and other confidential and proprietary information of their employers to third parties. It is important that your company realize that employees are under a duty even without a written agreement. However, a written employee nondisclosure agreement is by far the best way of establishing this legal duty. A written document can more clearly establish the employee's knowledge of the existence of trade secrets and other confidential and proprietary information and can more directly establish your company's

reasonable efforts to protect its trade secrets and the trade secrets and other confidential and proprietary information which belongs to third parties and is disclosed in confidence to your company. Second, there is a duty established by an appropriate agreement not to disclose trade secret and other confidential and proprietary information to third parties. Generally speaking, the contractual legal duty is the only way to establish the legal duty with respect to parties that are not employees. Therefore, all written agreements between your company and nonemployees that contemplate the disclosure of trade secret or other confidential and proprietary information should include a nondisclosure provision which establishes the legal duty of the recipient of the information not to disclose it to third parties.

Major Advantages and Disadvantages to Trade Secret Protection

There are three major advantages to trade secret protection of software technology. First, trade secret protection protects your company's valuable software ideas and not merely the expression of those ideas as copyright protection does. Second, it can effectively protect special features in marketed software products as long as the features are not readily ascertainable by observation or through reverse engineering. And third, if the trade secret protection can be maintained, there is no limit to the length of time under which protection is available, unlike patent and copyright protection. However, there are a few major disadvantages to trade secret protection. First, trade secret protection will only protect trade secrets against disclosure by parties who have a legal duty not to disclose. So, in essence, only employees and parties under a contractual duty not to disclose are affected by this protection. Second, trade secrets cannot protect mass-marketed software product features that are readily ascertainable. Third, like patent protection trade secret protection does not prohibit independent development. If another company independently develops a trade secret even though your company had developed it first, the other company would not be infringing your trade secret. It is a trade secret of each company as long as both keep it secret. Finally, the internal and external procedures required to maintain secrecy can be quite expensive.

Enforcement

Remedies for trade secret infringement include, under appropriate circumstances, injunctive relief and damages, which may be awarded independent of the injunctive relief. Damages may be based on the infringed party's losses or the infringer's profit or some combination thereof; in addition, under appropriate circumstances, punitive damages may be awarded.

Summary

Trade secret protection is available and should be used to protect any software product or special feature in the product (including documentation) which gives your company a competitive advantage in the marketplace and is not readily ascertainable to others using the product. While it is an excellent protection under such circumstances, it cannot protect many important ideas, information or features which are published or readily ascertainable to others using the product. It is best used in combination with patent and copyright protection, which can often protect the other important ideas and features.

PROTECTIVE LEGENDS

As discussed in the "Copyright Protection" section of this booklet, any software product or similar copyrightable work, whether published or not, should bear an appropriate protective legend. Generally, published software products and other copyrightable works will lose their ability to be protected under copyright law if appropriate copyright notices do not appear in the proper locations.

The appropriate form of a copyright notice differs depending upon whether the work is published or unpublished. For a published work, the notice to be effective in the United States must contain the following three elements:

- The letter "c" in a circle (©), the word "Copyright," or the abbreviation "Copr.;"
- The year of first publication of the work; and
- The full name of the owner of the copyright.

Within these elements, the letter "c" in a circle (©) has important international connotations; without the symbol © being included in the notice, copyright protection will not be available in some countries outside the United States. However, since there is no ASCII character for ©, the closest symbol to © for embedded notices is "c" in parenthesis or "(c)." Although it may help from an international standpoint to have the symbol "(c)" included in embedded notices, **unfortunately, the symbol "(c)" may not satisfy U.S. copyright law notice requirements.** Therefore, it is strongly recommended that all copyright notices used in conjunction with copyrighted published works include both the symbol "c" in a circle (©) **and** the word "copyright" in order to insure that notices embedded in code (which will include the symbol "(c)" to replace the symbol (©)) will satisfy international requirements to the extent possible and will include all elements

satisfying U.S. copyright law. In addition, in many Latin American countries, copyright protection will not be preserved unless the copyright notice includes the phrase "All Rights Reserved." Therefore, if we combine all the recommended elements, the recommended notice for a **published** software product that was published in 1988 and owned by XYZ, Inc. would look like this:

© Copyright 1988 XYZ, Inc. All Rights Reserved.

If a published software product is substantially enhanced, the date in the copyright notice may be left the same; having too old of a date in the copyright notice will not take away protection, even though it may shorten the normal duration of protection. However, it is preferable to replace the original publication date for substantially revised published works. The original publication date can either be replaced with the year in which the substantially revised version is published, or the original date can be left in place and the date of each substantial published revision added, with each year being separated by a comma. The latter approach is preferred, since the copyright notice then essentially reveals the history of the original publication and each substantial revision. Using this approach, it is more difficult to make a fatal error in the copyright notice, since the original date is still present and since the new date would apply only to changed material in the copyrighted work (if too recent a date is used, the copyright may be invalidated). If only trivial revisions are made, or if you are indefinite about whether substantial revisions have been made, use only the prior date or dates.

In contrast to published software, many types of software are unpublished. Most software products are **unpublished** during their development phase. And, except for mass-marketed microcomputer software products, most licensed software products remain unpublished, assuming that they are distributed through license agreements which are **agreed to and signed by** all parties along the distribution chain, including the end user. Finally, even if the object code of a software product is distributed with a copyright notice applicable to published works, the source code of the product and other proprietary software documentation

is virtually always maintained as a trade secret and is, therefore, unpublished. These unpublished works benefit from a form of copyright notice that will not imply publication and potential loss of trade secret status. The applicable notice should be placed on all media, should be embedded in the source and object code of the product so that it will appear on any object or source code listing and should appear on the product screen display at initialization or log-on.

Since unpublished works are also normally maintained as trade secrets, it is appropriate to combine an unpublished copyright notice with a legend applicable to protecting trade secrets and other confidential and proprietary information. Set forth below are two examples of a combined unpublished copyright notice and trade secret legend. Where space on your product permits, it is suggested that the following combined copyright/trade secret protective legend be placed on all trade secret or other confidential and proprietary media and be embedded in all trade secret or other confidential and proprietary code. In the legend, **"CLAIMANT"** should be replaced with the name of your company (in the copyright notice at the end of the legend, the formal name of your company, e.g. "XYZ, INC." is preferred; in the earlier locations of **"CLAIMANT,"** the common name of your company, e.g., "XYZ," may be used).

CLAIMANT CONFIDENTIAL AND PROPRIETARY

THIS WORK CONTAINS VALUABLE AND CONFIDENTIAL AND PROPRIETARY INFORMATION. DISCLOSURE, USE OR REPRODUCTION WITHOUT THE WRITTEN AUTHORIZATION OF **CLAIMANT** IS PROHIBITED. THIS UNPUBLISHED WORK BY **CLAIMANT** IS PROTECTED BY THE LAWS OF THE UNITED STATES AND OTHER COUNTRIES. IF PUBLICATION OF THE WORK SHOULD OCCUR THE FOLLOWING NOTICE SHALL APPLY:

"COPYRIGHT © 19XX **CLAIMANT** ALL RIGHTS RESERVED."

Although the full copyright/trade secret protective legend indicated above is preferred, the following abbreviated protective legend may be used where there is insufficient room for the full legend.

> THIS IS AN UNPUBLISHED WORK CONTAINING **CLAIMANT** CONFIDENTIAL AND PROPRIETARY INFORMATION. IF PUBLICATION OCCURS, THE FOLLOWING NOTICE APPLIES:
>
> "COPYRIGHT © 19XX **CLAIMANT** ALL RIGHTS RESERVED."

As used in these notices, 19XX is the year of creation. The year of creation is used rather than the year of publication because these materials contain trade secret or other confidential and proprietary information and are not published. If the material is substantially revised, the 19XX date may remain the same; preferably, however, the 19XX date for substantially revised materials should be either the year in which the new version is created or the original year together with each year in which the creation of a substantial revision is completed, with each year being separated by a comma. The latter approach is most preferred, since the copyright notice then essentially reveals the history of the original creation and each substantial revision. Using this approach, it is more difficult to make a fatal error in the copyright notice, since the original date is still present and since the new date would apply only to changed material in the copyright work. If only trivial revisions are made, or if you are unsure about whether substantial revisions have been made, use only the prior date or dates. For embedding either of these notices in the source or object code, replace the symbol "©" with "(c)."

The full copyright notice/trade secret legend indicated above has several advantages. It places employees of your company on notice that the software is confidential and proprietary and should not be released without appropriate contractual provisions. It also places third party employees of any licensee of the software product of your company on similar notice. The notice also places any party

who inadvertently receives the software on notice that your company claims both trade secret and copyright protection in the software. This can be an important message to software users as well as to attorneys of third parties, many of whom still do not realize that copyright protection automatically exists in unpublished works. In addition, the copyright notice is stated to apply, but only if publication occurs. This approach avoids any argument that "publication" has occurred through mere use of a standard copyright notice.

Whether used internally only or marketed by a license agreement, it is suggested that all trade secret or other confidential and proprietary software include in a very prominent position the full combined copyright/trade secret protective legend set forth above. It should appear on the cover (or the first page, if no cover is used) of each theory of operation, source listing or other proprietary software documentation. On each of these documents, it should appear prominently on the first page. If trade secret or licensed software is also stored on magnetic, semiconductor or other machine readable media, it is recommended that the full combined copyright/trade secret protective legend also be embedded in code in each media component (e.g. on each separate disk) so that it appears in an object code or source listing of that component. The notice should also appear on screen displays at initialization or log-on. In addition, media (e.g., disk, diskette, or tape) containing a source program should display the notice prominently. Typically, special labels are created containing the protective legend and are fixed to the media.

In addition to the above full copyright/trade secret protective legend on the first page (or cover page, if one exists), every human-readable copy of a theory of operation, source listing or other proprietary software documentation piece should have the notice **CLAIMANT** CONFIDENTIAL AND PROPRIETARY printed, in large bold type, at the top or bottom of the front and back cover of the document, and on **every page** within the document (as was indicated previously, **"CLAIMANT"** in the notice should be replaced with the name of your company, and may be the common name of your company, e.g., "XYZ," rather than the formal name, e.g. "XYZ, Inc.").

In addition to the complete copyright/trade secret protective legend being embedded in chips containing trade secret, licensed, or other confidential and proprietary software, it is suggested that your company include, at a location on or in the machine containing the chips, the following notice:

CLAIMANT CONFIDENTIAL AND PROPRIETARY

THIS MACHINE CONTAINS VALUABLE CONFIDENTIAL AND PROPRIETARY INFORMATION. DISCLOSURE, USE OR REPRODUCTION OUTSIDE OF **CLAIMANT** IS PROHIBITED EXCEPT AS AUTHORIZED IN WRITING.

THIS MACHINE CONTAINS AN UNPUBLISHED WORK WHICH IS PROTECTED BY THE LAWS OF THE UNITED STATES AND OTHER COUNTRIES. IF PUBLICATION OCCURS, THE FOLLOWING NOTICE SHALL APPLY:

"COPYRIGHT © 19XX **CLAIMANT** ALL RIGHTS RESERVED."

In those cases where space is limited, and preferably in all instances, an abbreviated external legend should also be placed on each chip containing trade secret, licensed, or other confidential and proprietary software as follows:

UNPUBLISHED © 19XX **CLAIMANT** CONFIDENTIAL

In these notices, 19XX is the year of creation. The year date 19XX is preferably updated, using the previously described guidelines for unpublished works, whenever substantial revisions are made. Again, the word **"CLAIMANT"** should be replaced with the name of your company. For protection in Latin American countries the phrase "ALL RIGHTS RESERVED" should be added to the abbreviated notice.

Finally, if your company is contemplating the distribution of its software product to the United States Government, be forewarned that in many instances special United States Government notices

and legends must be placed on your company's product to maintain copyright and trade secret protection. The government regulations discussing these notices and legends are too long and complex to address in this booklet. However, before agreeing to distribute your company's software product to the U.S. government, you should consult an intellectual property attorney knowledgeable about these regulations. **If this is not done, intellectual property rights in your software product can easily be permanently lost.**

The previously described protective legends are generally very useful. However, because of the fast changing law with respect to software, and because of the widely varying circumstances in which your company may be using or marketing your trade secret, licensed, or other confidential and proprietary software, **it is generally advisable to review each software product protection scheme on an annual basis with an intellectual property attorney knowledgeable about software protection.**

Summary

Any software product, whether published or not, should bear an appropriate protective legend. Software that is distributed to the public without a signed license agreement is normally considered "published." On the other hand, software containing trade secrets that is under development or that is licensed to a limited number of end users under a trade secret license is usually considered "unpublished." In the case of published software, the legend should include a copyright notice. In the case of unpublished software, a copyright notice can be included, but it should be included in a manner which ensures maintaining the unpublished nature of the software. The protective legend for unpublished software should also include language indicating the trade secret nature of the software.

COMBINING PATENT, COPYRIGHT AND TRADE SECRET PROTECTION

A software product can be protected by combining patent, copyright and trade secret protection. Copyright protection can almost always be used in combination with either patent and/or trade secret protection. A feature can be patented without sacrificing trade secret protection for the source or object code that implements the feature. So, as a practical matter, trade secret and patent protection can be combined to protect different technical aspects of a particular feature. Furthermore, certain features of a software product can be patented while retaining trade secret protection for the remaining features and aspects of the product. That which needs to be disclosed in order to patent an inventive aspect or portion of a software product often constitutes a relatively minor portion of the trade secret information related to the product. While you will forfeit trade secret rights in disclosed material, that which is not disclosed may be maintained as a trade secret. Since the source and object code of the software product normally do not need to be disclosed in a patent application, the code can usually be maintained as a trade secret.

The developer can combine these forms of protection to protect different aspects of the developer's software product. Some parts or aspects of a package may be protected with trade secret protection, other parts with patent protection, and the entire package may be subject to copyright protection. Developers should take time to strategize with their attorneys to determine which "mix" of protection is best for each product.

TRADEMARK PROTECTION

The primary purpose of a trademark is to serve as a unique indication of the source or origin of a product or service so that satisfied customers will eventually associate a particular trademark with a particular company, and will ask for the product by that particular mark. In this manner, the trademark provides valuable goodwill. Therefore, when choosing a trademark, you should try to select a name that will:

- Clearly identify your company as the origin of the software;
- Represent quality, and
- Serve as a foundation for marketing and advertising your software product.

The selection of a trademark can enhance the trademark owner's ability to obtain registration and prevent others from using the same or similar marks. Names can generally be classified into four basic categories:

- Generic or merely descriptive;
- Descriptive;
- Suggestive, and
- Arbitrary, fanciful or coined.

Generic words or merely descriptive terms are generally unprotectable as marks, since they are terms required in the trade or by competitors to fairly or aptly describe the nature of products.

Descriptive trademarks are weak marks and can only be protected after extensive use and promotion. A mark is descriptive if it describes what the product is. For example, if your product is a computer, the trademark "Data Processor" would probably be considered merely descriptive, since it merely describes what you

are selling. Examples of descriptive terms in the computer business are as follows:

advanced	micro
computer	mini
cpu	modular
data	research
digital	software
electronics	systems
instrument	technology
logic	ultra

Similarly, a trademark such as "Minnesota Software" would be considered geographically descriptive, and could only be protected after extensive sales and promotion so that it could be proved that the software industry recognized the name as a trademark of a particular company.

Suggestive names only "suggest" the characteristics of a product and do not **merely describe** the product. Suggestive trademarks are stronger trademarks, and hint at some quality of the product without actually telling exactly what the product is. Examples of suggestive trademarks are: WORDSTAR® , VERBATIM® , SUPERCALC® , and VISICALC® .

Arbitrary, fanciful, or coined trademarks are the best choice in terms of trademark strength. These are words that have absolutely no meaning in the particular trade or business prior to their adoption by a particular manufacturer for use with its goods or services. After use and promotion, these marks are instantly identified with a particular company, and the exclusive right to use the mark is easily asserted against potential infringers. Examples of fanciful trademarks include KODAK® for cameras and XEROX® for photocopiers. Examples of arbitrary and coined marks are: LOTUS® , PEACHTREE SOFTWARE® , APPLE COMPUTER® , SQZ® , CROSSTALK® , TOPS® , INTEL® , and INMAC® .

Federal Trademark Registration

Although the law in the United States may soon change, in order to obtain federal registration of a trademark, the applicant presently first must use the trademark in association with goods or services in interstate commerce. After first use, an application can then be filed with the United States Patent and Trademark Office. Federal trademark registration can be quite valuable. For example, federal trademark registration provides the owner with trademark rights in all fifty states even if the owner is just starting the business and has only marketed his or her product in a couple of states.

Trademark Infringement

A trademark can be infringed even if the infringer is not using an identical mark. Trademark infringement occurs when another trademark is confusingly similar to the original trademark. Whether the two trademarks are confusingly similar depends on a number of factors, including:

- The existence of actual confusion in the marketplace between the two marks;
- Similarity of the marks in terms of appearance, sound and meaning;
- Similarity of the goods or services being identified by the two marks;
- The strength of the prior mark;
- The sophistication of the consumers who buy the particular products or services;
- The similarity of the channels of distribution of the products or services (that is, whether they are both sold in the same type of stores);
- The degree of commercial competition between the two trademark users; and

- The distinctiveness of the trademarks (that is, whether they are somewhat descriptive or arbitrary and fanciful).

As with patents, the U.S. Patent and Trademark Office has no program for monitoring the potential infringement of registered marks, nor will the Office enforce trademark rights on behalf of the owner of a federally registered trademark. Once a trademark owner determines that someone else is potentially infringing his trademark, the trademark owner must bear the expense of enforcing his or her rights.

Frequently, a simple letter to the infringer requesting that he or she cease use of the mark will end the matter. However, if the infringing party is not cooperative, the controversy may wind up in an expensive court battle. The commercial value of the trademark must necessarily be substantial to justify the expense involved in conducting a trademark infringement suit in federal court. The software developer can significantly reduce the risk and expense of such infringement suits by choosing a strong mark in the first instance.

Trademark Clearance Searches

Whenever a company or business adopts any type of name or mark for new products, services, company name or corporate name, there is a significant risk that the name or trademark will conflict with marks already in use by other businesses. Since the cost of replacing packaging materials, labels and marketing literature or defending against a claim of infringement may be quite significant, businesses should request search investigations before adopting new names or trademarks.

As part of a trademark search investigation, the investigator prepares a search report to determine the availability of a name or mark for use and registration. The search report usually includes an abstract of trademark references developed in the search and a legal opinion concerning the availability of the name or mark for use and registration.

In contrast to the present U.S. practice of establishing trademark rights based upon first use, nearly all other countries base trademark rights upon first registration, without regard to first use. Presently in the United States, the first business to adopt and commercially use the name or mark establishes a claim of ownership of rights in the name. Although registrations have numerous benefits and important advantages, companies may have common law rights of ownership based upon actual usage, even though they may not have filed a state or federal trademark registration. Therefore, in order to reduce the risk of conflict with another name in use, search investigations are performed to determine if there are any other businesses which may be using a conflicting name and whether or not there are any prior registrations or pending applications.

There are various types of search investigations which may be conducted with accompanying variations in cost, time delay and thoroughness. The most thorough search investigation includes the searching of various types of directories and trade sources; this type of search is devised to reveal if there are any companies actually using a conflicting name or if any companies have filed any conflicting registrations or applications. Such trade searches are referred to as "common law" or comprehensive searches and are generally more time consuming and more expensive.

In addition to the "common law" search, there is also a computer data base search which searches all issued and pending federal registrations, and issued state registrations. Such searches can be conducted relatively quickly (normally within a few hours or a day) and are relatively inexpensive.

Many companies rely upon such computer searches of federal and state records to give them input regarding the general availability of a trademark before undertaking the more expensive common law search. However, companies truly interested in determining the availability of a trademark should always undertake the common law search.

Summary

The owner of a trademark may prevent others from using a mark which is confusingly similar to the owner's mark. A trademark can be quite valuable because it identifies the product or service as originating from a certain source. Over time it is hoped that the public will recognize your trademark as representing a certain level of quality and will build its allegiance towards purchasing your product or service in the future.

ACQUISITION

In addition to choosing the best methods of protecting your company's software products, it is also important that your company properly acquire the ownership of the intellectual property rights (i.e., patent, copyright, trade secret and trademark rights) in the products it markets. As a general rule intellectual property rights in software are owned in the first instance by the individual who creates the software. The ownership of these intellectual property rights is separate and distinct from the right to own, possess or use a **copy** of the software. Unless intellectual property rights are transferred from the creator to another person or entity by operation of law or by agreement, the rights remain in the creator. Before your company engages an employee or independent contractor to participate in the development of a new software product, your company should be able to trace the ownership of the intellectual property rights in the product through the agreements, documents or laws that your company is relying upon. Otherwise, after the product is developed, your company may proceed to market a product which it actually has no right to market and thus incur significant liability because of the mistaken belief that it owns the intellectual property in its products.

Obtaining Rights in Copyrights

The right to the copyright in software is automatically transferred from the creator to the entity for which the software is created **if** the creator is an employee of that entity and the software development was within the creator's scope of employment. Even though this transfer occurs by operation of law and does not require a written agreement to accomplish it, it is wise to use an employee agreement to document the transfer. Otherwise, without an agreement, unnecessary disputes can arise between the parties over the scope and terms of the transfer.

Outside of the employer-employee situation, the legal rules which

govern copyright ownership in the absence of an agreement are currently unclear. In fact, there is currently conflicting legal authority concerning which rules govern the ownership of copyright rights in the absence of an agreement. In some jurisdictions, if the party who financed the software development supervised, directed or controlled the developer's efforts, that party would own the copyright rights in the software. If this element of control is absent in these jurisdictions, the individual engaged to do the software development would probably own the copyright rights. In other states, the developer would own the rights in the software unless there is a written agreement to assign the copyright rights. In such states, it does not matter if the party who financed the software development supervises, directs or controls the development. The best way to remove the uncertainty of the law in this area is to document the transfer or assignment of copyright ownership in a written agreement.

Obtaining Rights in Inventions and Ideas

Rights in software inventions and ideas subject to patent or trade secret protection and not subject to copyright protection are normally owned by the inventor/developer in the absence of an agreement to assign the rights to the employer or other entity financing the development of the software. The exception to this rule is when an employee or independent consultant is hired or engaged for the express purpose of making or developing the software invention or idea in which the rights are sought. However, even if an employee or independent consultant creates an invention in which the employer may not have ownership rights, the employer normally obtains an implied, nonexclusive license to practice the invention. This type of implied license, often referred to as "shop rights," does not arise in the case of copyright protection and may not arise in the case of trade secret protection.

Nevertheless, because of uncertainty in the legal rules which govern ownership of intellectual property, it is strongly suggested that your company use written agreements with employees and independent consultants in order to document clearly the transfer to your company of patent, copyright, trade secret and trademark

rights in developed software and in other inventions and works of authorship. If the person is already engaged as an employee or independent contractor, your company should consider the need for providing additional consideration to the person in order to make enforceable a new agreement or the addition of assignment provisions to an existing agreement.

Intellectual property rights in a software product and rights to use, modify or distribute such a product cannot always be acquired through a complete assignment of the ownership interest. Often a company uses a written license agreement to acquire rights of less than full ownership. For example, many software publishers use license agreements with software authors as the means to acquire the right to modify and/or distribute products created by the authors.

Protecting Licensing Rights

Protecting the use, modification and distribution rights in software products that your company has acquired through licenses is very important. Unless your company helps protect the rights in these software products, it may not only be subject to embarrassing and costly litigation and penalties, but the licensor/supplier could prevent your company from using, distributing or marketing a software product which is critical to the success of your company. Also, it is important to protect the rights which you have acquired under license agreements from premature termination. For example, it is possible that you could lose your rights to use a software product, if the company from which you received a license to use the product goes bankrupt or if the license agreement permits arbitrary termination of your company's rights.

Summary

It is very important to use written agreements to document your company's ownership of intellectual property rights (i.e., patent, copyright, trade secret, mask work and trademark rights) in its software or other computer products. Before your company engages an employee or independent contractor to participate in

the development of a new software product, it should have the employee or contractor sign an agreement assigning or transferring to your company all right, title and interest in and to the software product, including the associated intellectual property rights. Otherwise, your company may market a product which it actually has no right to market under the mistaken belief that it owns the product when an employee or contractor may own a part of it.

It is also very important for your company to protect the licensing rights which your company possesses in software products of other companies. Often, the ability of your company to market its products depends on its rights to market and use software products of other companies. Of course, the rights of your company to modify and distribute another company's software should always be documented through the use of carefully written agreements.

DISTRIBUTION OF SOFTWARE

Software products are distributed either directly to end users or indirectly to them through a chain of distribution usually starting with a distributor or value-added remarketer and, in the case of mass-marketed microcomputer software, usually ending with a mail order house or retailer. Software products are typically not "sold" to the end user but "licensed" to the end user for its use. A "sale" transfers complete ownership of the copy of the product to the user, who is free to do practically anything it wants with the product as long as the copyright and patent rights in the product are not violated.

Copyright and patent protection can provide considerable protection for software copies that are "sold." For example, if a customer **owns** a copy of your software product, the customer cannot copy it (except to make an archival backup copy as permitted by the copyright law); nor can a customer change the code of the product in order to develop a competing product without your express authorization (this would violate your company's right to control the preparation of derivative works). As previously indicated, however, there is an important exception to the prohibition against an owner of a copy preparing a derivative work. Users of software who own a copy of the software may make or authorize the making of an adaptation of that computer program, provided that the adaptation is created as an essential step in the utilization of the computer program in conjunction with a machine and that it is used in no other manner. As also previously indicated, the right of a user would apply only if the copy of the computer program were "sold" to the user so that the user would be an "owner" of the copy. If the computer program copy is licensed to the user, the user's rights with respect to the preparation of a derivative work would be determined by the license agreement. A customer or competitor would infringe any patented processes or ideas embodied in the software product if they were to copy them. And finally, since under normal circumstances only a copy of the object code of the product would

be sold, the source code could be maintained as a trade secret.

If your software product is licensed, the customer, or the "licensee," does not own the copy it has licensed. Rather, your company, the "licensor," retains ownership of the copy and merely permits the licensee to use it. The terms and conditions of use are normally described in a "license agreement." Normally, the customer/licensee can use the licensed copy only if it abides by the terms of such a license agreement. If the customer violates the agreement, the license normally requires that the licensed copy be returned. A license agreement usually prohibits the customer/licensee from engaging in certain activities that it could otherwise engage in if it owned a copy of the software product. For example, typically a software license requires the customer/licensee to treat the software as a trade secret, forbids the licensee from transferring the licensed copy by loan or sale to another party, requires that the software be used at a particular site or on a particular computer, and forbids use of the software on a computer network.

Because of the additional control licensing can provide, most companies prefer to license rather than sell copies of their software. In order to accomplish this, the license agreement must be agreed to and signed by both the licensor and licensee before the licensee can use the software. Even companies which mass market software through mail order houses or retailers attempt to impose license restrictions by use of "shrink-wrap" license agreements. A "shrink-wrap" license agreement is a short pre-printed license agreement, typically "shrink-wrapped" into the clear plastic or cellophane packaging of a software product which is ostensibly assented to by the customer through the tearing of a seal or label on the software diskette. However, since these agreements are normally not signed, and therefore not expressly agreed to by the customer, their enforceability is uncertain. If these agreements are not enforceable, then copies of mass marketed software would probably be considered sold and not licensed.

A signed license agreement is the typically favored method of controlling distribution because of the added protection it can

afford. While this approach is still preferred for most software, there are situations in which the administrative burden or the difficulty of obtaining signed license agreements outweigh the benefits conferred. Sometimes controls afforded by a license agreement are not necessary to protect a product because patent, copyright and trademark rights provide adequate protection. This can particularly be the case when comprehensive patent protection has been obtained or is contemplated. In such a case there may be no need to annoy the customer with a "shrink-wrap" or other license agreement.

If your company decides to market one or more of its software products through signed license agreements, it is important to recognize that such agreements can apply not only to software marketed on disks or other transportable media, but also to firmware, i.e., with respect to software embedded in semiconductor chips.

Summary

Any plan for distributing your software product should always include a strategy for protecting the intellectual property contained in the product. When combined with other appropriate forms of protection, signed end user license and distribution agreements afford the most comprehensive vehicle for affording this protection.

A HYPOTHETICAL CASE

We will now consider a protection scheme for a hypothetical software product. The hypothetical software product we will consider is called Super Spreadsheet, and it is an electronic spreadsheet to be distributed to the mass market. The Super Spreadsheet product includes all the standard electronic spreadsheet functions such as the assignment of formulas to cells in the spreadsheet matrix, a command language including such functions as "go to," "sum," "divided by," "copy," "delete," and "move." The Super Spreadsheet product has a hierarchical command structure implemented in a pop-down menu system. It also has a standard file structure for the storage of spreadsheet templates and data. The Super Spreadsheet product is distributed to the mass market in object code form. Repus Company, the company that distributes the Super Spreadsheet product, does not attempt to obtain signed license agreements from its customers.

Let us take a brief look at how copyright, trade secret and patent protection can be applied to protect the Super Spreadsheet product. Copyright protection is available to protect the source and object code of the program and the program documentation, including the user manual. This protection, however, would be limited in scope and could not prevent others from copying the functions or features of the software. Rather copyright protection only protects against copying

- The program code, and
- The preparation and distribution of derivative works based on access to the code

It may, to some extent, protect the structure, sequence, and organization of the code. In addition, although some courts have found to the contrary, the protection available to user interface features through copyright law is likely limited to any artistic expression which can exist independently of the screen display utilitarian features. Design patent protection could also be used to

protect the graphical aspects of the screen display.

As long as the source code (which is not distributed) is subject to reasonable efforts to protect its confidentiality, it may be protected as a trade secret. The distributed object code, however, cannot be considered a trade secret unless the "shrinkwrap" license agreement under which it is distributed is valid and enforceable. As discussed above, the validity and enforceability of such a contract is uncertain. If the agreement is unenforceable, each distributed software copy would be considered sold, not licensed. The commands, functions, file structures and other aspects of the Super Spreadsheet product which are apparent from watching the spreadsheet operate or from reading the manuals or books written about the spreadsheet may not be considered trade secrets, even if the shrink-wrap license agreement were enforceable. These aspects of the product are readily ascertainable and available to a large number of people who would not be bound by the shrink-wrap license agreement.

The best means for protecting these "readily ascertainable" features of the Super Spreadsheet product is patent protection. If the Super Spreadsheet product includes inventive new spreadsheet features or functions such as a new windowing system or a new system to minimize recalculation time, these features could be protected by patents. If a patent could be obtained on several key functions or features of the spreadsheet, the Super Spreadsheet product would enjoy some immunity from cloning, because the clone probably could not include all of the functions or features of the protected product without infringing the patent. Additionally, algorithms or other programming inventions present in the source code, and thereby concealed in the object code of the distributed program, could also be protected with a patent. However, if these features could not be readily reverse-engineered from the object code, trade secret protection would also be available for these features.

As far as trademark protection is concerned, the mark "SUPER SPREADSHEET" would probably be considered descriptive. The word "spreadsheet" itself would be considered generic because

the term specifies what the product is. The term "super" would probably be considered descriptive of the speed and advanced qualities of the spreadsheet. Used together the two words would constitute a descriptive mark which would be a very weak trademark until such a time as it might establish enhanced rights through extensive sales and promotion, thus enabling proof that the software industry recognized the mark as a trademark of the company. Repus Company, however, could obtain strong rights in the coined term REPUS ("super" spelled backwards) if properly used as a trademark and if it was otherwise available for use.

CONCLUSION

Patent protection is a powerful form of software protection which should be used aggressively. It can be applied to protect many features which cannot be protected by copyright or trade secret protection. In most cases the only significant disadvantage to obtaining patent protection is the cost. The cost, however, is minimal compared to typical software development expenditures and to the dollar value of maintaining an exclusive market in the product or features protected.

Copyright protection is available and should be used to protect virtually all software products. However, while it is excellent protection against unauthorized duplication and the preparation and distribution of derivative works, it cannot protect many important features of a software product. Thus, it is best used in combination with patent and trade secret protection.

Trade secret protection is available and should be used to protect any software product or special feature in the product (including documentation) which gives your company a competitive advantage in the marketplace and is not readily ascertainable to persons using the product. While it is an excellent protection under such circumstances, it cannot protect many important ideas or features which are published or readily ascertainable to others using the product. It is best used in combination with patent and copyright protection which can often protect other important ideas and features.

Any software product or similar copyrightable work, whether published or not, should bear an appropriate protective legend. Generally, published software products and other copyrightable works will lose their ability to be protected under current U.S. copyright law if appropriate copyright notices do not appear in the proper locations on the work. For published software, it is important to include an appropriate copyright notice on the media containing the software and embedded in the code of the product.

The appropriate form of a copyright notice differs depending upon whether the work is published or unpublished. When distributing through signed license agreements, the software is normally considered unpublished, and a special form of combined trade secret and copyright notice should be used.

A trademark identifies products or services as originating from a particular source so that satisfied customers will eventually associate the trademark with a particular company, providing the trademark with valuable goodwill. Therefore, a strong trademark can play an important role in the successful marketing of a software product.

It is very important to document your company's ownership of intellectual property rights (i.e., patent, copyright, trade secret and trademark rights) in its software products as well as in mask work rights and in other inventions and works of authorship. It is also very important for your company to protect the licensing rights which your company acquires in software products from other companies. Of course, these rights should always be documented through the use of carefully written agreements.

Any plan for distributing your software product should always include a strategy for protecting the intellectual property contained in the product. Use of protective legends and an appropriate mix of patent, copyright, trade secret and trademark protection together with signed end user license agreements affords the most comprehensive strategy for achieving maximum protection. It is generally advisable to review your company's software product distribution and protection strategies on an annual basis with an intellectual property attorney knowledgeable about software protection.